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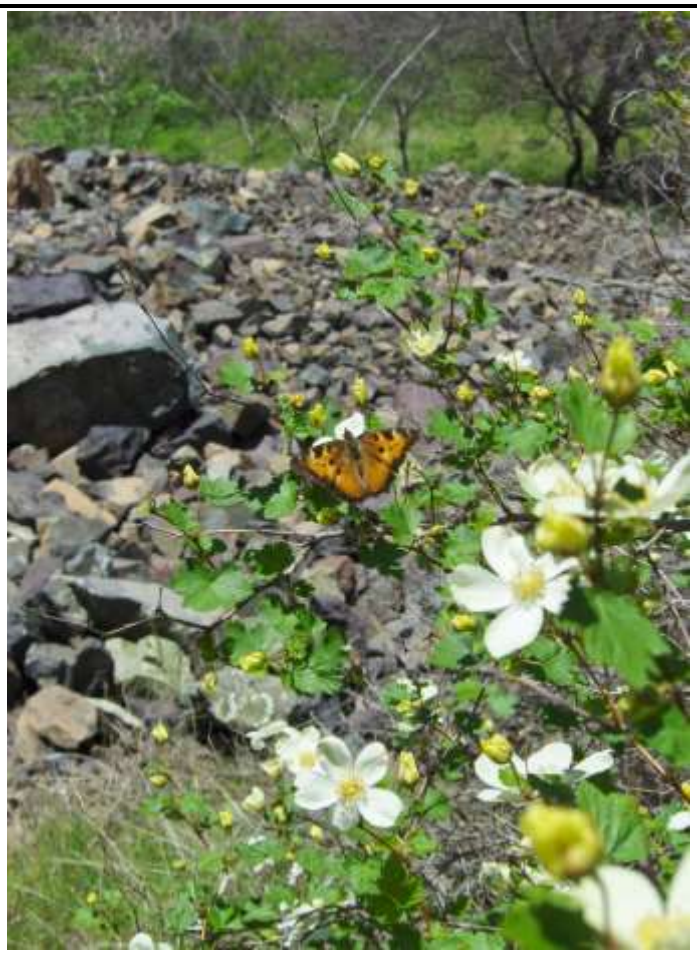
Bartonberry Reintroduction

Environmental Assessment
DOI-BLM-ORWA-V000-2016-0024-EA



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Bartonberry Reintroduction
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1.0 INTRODUCTION

Bartonberry (*Rubus bartonianus*) is endemic to Hells Canyon of the Snake River and its tributaries. In Oregon, Bartonberry has been reported from the Snake River in Hells Canyon between Copper Creek on BLM land about five miles north of Copperfield to Christmas Creek, which is approximately 11 air miles southeast of the confluence of the Snake and Salmon Rivers (Ferriel and Ferriel 2010). The total historic range of Bartonberry in Oregon extends over 48 air miles. In Idaho, it occurs more or less continuously between Kinney Creek on the Payette National Forest to opposite the mouth of Battle Creek in the Hells Canyon National Recreation Area (NRA), a distance of about 11.5 river miles (Moseley and Mancuso 1992). Downstream from this, it is known from three widely disjunct locations in Idaho (Moseley and Mancuso 1992). Hitchcock, et al. (1977) describes Bartonberry as growing on protected canyon sides, forming thickets along streams. Elevations for Bartonberry range from about 1100 feet near the Snake River to around 4600 feet for the uppermost populations.

Bartonberry has a global rarity rank of G2 (Globally Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences.). State rarity ranks in both Oregon and Idaho are S2. Bartonberry is a Federal Species of Concern and is a Candidate for listing in Oregon by the Dept. of Agriculture. Bartonberry is Sensitive for both Region 6 Forest Service and OR/WA BLM.

Bartonberry was collected on BLM lands by Bob Meinke in 1977 in the vicinity of Copper Creek. Searches of the area in 2009 and 2010 were not able to re-locate the Copper Creek Bartonberry site (Ferriel and Ferriel 2010). It is probable that Bartonberry has been extirpated from the Copper Creek site. This reduces the global distribution of Bartonberry by six river miles (10% of its global range). This 10% reduction in distribution has the potential to reduce the viability of Bartonberry.

This project would manually plant Bartonberry seedlings in the vicinity of the historic Copper Creek location, maintaining the historic global distribution of the species. This will help maintain the viability of Bartonberry and its long term persistence.

1.1 Purpose and Need for Proposed Action

The purpose of the proposed action is to restore Bartonberry to its known historical range. The need is to maintain the species' viability. The need for the action is also identified under the Federal Land Policy and Management Act (FLPMA) which makes public lands available for this type of use and the BLM 6840 Manual, Special Status Species Management (BLM 2008). Restoration is allowed in Wilderness Study Areas (WSA) under the BLM 6330 manual (BLM 2012) where natural processes will not be effective at restoring the area. In the case of Bartonberry the nearest extant site is located 5.5 air miles to the north on Lynch Creek. This is too great a distance for natural seed dispersion to restore these sites.

1.2 Decision to be Made

The Decision for the Authorized Officer would be whether to hand plant Bartonberry seedlings at three locations in the vicinity of Copper Creek.

1.3 Conformance with BLM Resource Management Plan(s)

The proposed action and alternatives described below are in conformance with the Baker Resource Management Plan (BRMP), approved July, 1989 (BLM 1989). The proposed action is specifically in conformance with the BRMP management direction for special status species actions cited in the BRMP Record of Decision which states on page 19: "State sensitive species will be managed as though they were officially listed pursuant to the Endangered Species Act of 1976." BLM staff and managers have determined that the proposed action would not conflict with other decisions throughout the plan.

1.4 Consistency with Laws, Regulations and Policies

The proposed action is consistent with the management direction to conserve special status species found in BLM Manual 6840 Special Status Species Management (BLM 2008) and in BLM's1745 Manual - Introduction, Transplant, Augmentation, And Reestablishment of Fish, Wildlife and Plants (BLM 1992). It is also in conformance with both the BLM's Manual 6330 – Management of Wilderness Study Areas (2012) and BLM's Areas of Critical Environmental Concern Manual (BLM 1988).

1.5 Scoping and Identification of Issues

The following issues were raised by the public or BLM staff, or both, and are considered in detail in this Environmental Assessment:

- Is native seedling planting acceptable in a Wilderness Study Area given BLM's Wilderness Study Area (WSA) policy?
- How will the planting of Bartonberry seedlings affect the relevant and important values of the Homestead Area of Critical Environmental Concern (ACEC)?

1.6 Issues Considered but Eliminated from Detailed Analysis

No additional issues were raised during scoping and internal reviews for the project.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVE

2.1 Alternative A – No Action

Under the No Action Alternative, the BLM would not plant Bartonberry seedlings on public lands in the vicinity of Copper Creek and would continue to manage these lands under the existing management and applicable public land laws.

2.2 Alternative B Proposed Action

The BLM would hand plant 2,300 Bartonberry seedlings on three areas that total 49 acres of public land in Baker and Wallowa Counties, Oregon. The legal locations for the proposed planting locations are:

WM, T. 6 S., R. 48 E., Section 2 and T. 5 S., R. 48 E. Section 36 (See Map).

Two of three planting locations, seven and sixteen acres for a total of 23 acres, are within the McGraw Creek Wilderness Study Area (WSA). The sixteen acre planting unit located along Copper Creek is in both the McGraw Creek WSA and the Homestead Area of Critical Environmental Concern (ACEC); because the WSA overlaps with the ACEC. The third 26 acre planting site is located along Ashby Creek in the Homestead ACEC. The 2,300 seedlings will be divided between the three sites. Thus, approximately 766 seedlings will be planted in each of the three planting locations.

Planting sites were selected that provide suitable habitat and adequate soil depths to provide for the successful establishment of Bartonberry. The entire 49 acres will not be planted with Bartonberry seedlings. The 2,300 seedlings will not cover 49 acres. The best planting locations for Bartonberry within the 49 acres will be selected at the time of planting. Site selection criteria will consist of open sun, adequate soil depth, and few surface rocks or boulders. Sites selected for planting in each unit will concentrate seedlings in one to four areas within each planting unit; to facilitate relocation and future monitoring. Seedling spacing will vary from a minimum of five feet to fifteen feet. The best planting location will be selected for planting each seedling and the seedling spacing will vary accordingly to get each seedling in the best available planting location.

The BLM would be using planting dibbles (2 in. width by 8 in. depth), designed specifically to make a hole the same size as the containers, to hand plant the seedlings. Dibbles are designed to limit soil disturbance from the hole made for the plant, and no soil disturbance is expected outside of that area.

Seedlings that are planted in the planting area adjacent to Ashby Creek outside the McGraw Creek WSA will be caged with Vexar tubes to reduce browse damage by deer and elk. Seedlings planted in the two other planting locations within the McGraw Creek WSA will not be caged to avoid impairment of the wilderness values of the McGraw Creek WSA. Access to planting sites will comply with WSA regulations, such as walking in or other non-motorized travel such as horseback. WSA regulations also allow access via the Snake River which is the eastern boundary of the WSA. Therefore, the use of a boat on the reservoir may be used to access the northernmost planting site. Seedlings would be planted in late fall or winter; when adequate soil moisture is available for seedling establishment. Vexar tubes would be removed in one to two years depending on how long it takes the seedlings to outgrow the Vexar tubes.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 Introduction

This chapter identifies and describes the existing conditions and trends of elements or resources in the human environment which may be affected by the Proposed Action.

3.2 General Setting

The lands identified for planting Bartonberry seedlings are located in Hells Canyon on the Snake River, in both Baker and Wallowa Counties, Oregon. These are both upland and riparian sites.

3.3 Identified Resource with Issue or Concern

The BLM Baker Field Office Inter-disciplinary Team (IDT) has reviewed and identified issues through internal scoping affected by the alternatives. The following Affected Environment Table 3-1 summarizes the results of that review. The resources with no issues identified and listed as either not affected or not present are not discussed further in this document. Resources with an issue(s) or have questions that would be analyzed in detail in this Chapter are in **bold** in the table below.

Table 3-1 Affected Environment

Identified Resource with Issue Question for Analysis	**Status** **Affected;** Not Affected; Not Present.	**Explanation or Issue Question** **If Affected (BOLD); Reference Applicable EA Chapter and Section; and State the Issue in a Question.** If Not Affected, explanation required. If Not Present, explanation required.
Air Quality (Clean Air Act)	Not Affected	BLM's action is to plant Bartonberry seedlings by hand which will not affect air quality.
Native American Religious Concerns	Not Present	Resource not known to be present.
Areas of Critical Environmental Concern (ACECs)	**Affected**	**How will the two planting sites that are located in the Homestead ACEC affect its relevant and important values? (Page 8)**
Cultural Resources and Archeology	Not affected	Project area was reviewed by District Archaeologist.
Environmental Justice (Executive Order 12898)	Not Present	No homes or dwellings are present in the project area.
Fire Management	Not Affected	Wildland fire management would not be affected by the Bartonberry planting
Fisheries	Not Affected	Sedimentation would be none. Shading of streams by planting Bartonberry would enhance fish habitat.
Flood Plains	Not Affected	The minimal soil disturbance of planting the Bartonberry seedlings would have no adverse effects on the floodplains. Establishment of planted Bartonberry seedlings would help stabilize floodplains and reduce erosion.
Forestry and Woodlands	Not Present	Project area is canyon grasslands. There are no forests.
Grazing Management and Rangeland	Not Affected	No changes in livestock grazing would occur.

Table 3-1 Affected Environment			
Identified Resource with Issue Question for Analysis		**Status** **Affected;** Not Affected; Not Present.	**Explanation or Issue Question** **If Affected (BOLD); Reference Applicable EA Chapter and Section; and State the Issue in a Question.** If Not Affected, explanation required. If Not Present, explanation required.
Wastes, Hazardous or Solid		Not Present	No Hazardous wastes are known to occur in the project area.
Migratory Birds (Executive Order 13186)		Not Affected	Planting 2,300 Bartonberry seedlings would have negligible impacts on migratory birds.
Minerals		Not Affected	Planting Bartonberry seedlings would not affect subsurface resources.
Noxious Weeds (Executive Order 13112)		Not Affected	The minimal soil disturbance would not affect noxious weeds. There are past and probably future weed treatments in the project area.
Paleontological Resources		Not Present	No Paleontological Resources are known to occur in the area.
Prime or Unique Farmlands		Not Present	There are no farmlands in the project area.
Realty and Lands		Not Affected	No land actions or easements are proposed.
Recreation and Off Highway Vehicles (OHV)		Not Affected	OHV use is not allowed in this area.
Social and Economic Values		Not Present	Resource not present.
Soils and Biological Crusts		Not Affected	There would be minimal impacts to soils and biological crusts.
Special Status Species (SSS) and Habitat for BLM	Fish	Not Affected	Project location is upland and in riparian areas. No sedimentation would be produced. The minimal soil disturbance of planting the Bartonberry seedlings would have no adverse effects on the fish. Establishment of planted Bartonberry seedlings would help stabilize floodplains, reduce erosion, and enhance fish habitat.
	Wildlife	Not Affected	Reintroduction of Bartonberry would enhance habitats for special status wildlife by providing increased forage and cover.
	Plants	**Affected**	**How will the proposed seedling planting affect special status plants? (Page 8)**

Table 3-1 Affected Environment			
Identified Resource with Issue Question for Analysis		**Status** **Affected;** Not Affected; Not Present.	**Explanation or Issue Question** **If Affected (BOLD); Reference Applicable EA Chapter and Section; and State the Issue in a Question.** If Not Affected, explanation required. If Not Present, explanation required.
Threatened or Endangered (T/E) Species or Habitat	Fish	Not Affected	Project locations are at least 300 feet above the high pool of Hells Canyon Reservoir. This is so that the project does not impact bull trout in Hells Canyon. No sedimentation would be produced. The minimal soil disturbance of planting the Bartonberry seedlings would have no adverse effects on fish. Establishment of planted Bartonberry seedlings would help stabilize floodplains, reduce erosion, and enhance fish habitat.
	Wildlife	Not Affected	Wolves in the area would not be affected.
	Plants	Not Present	There is no habitat for T&E Plants in the project area.
Transportation and Roads		Not Affected	No roads are present in the project area. The Hells Canyon trail is present in the project area. All plantings would be greater than 50 feet from the trail. Thus, there will be no impacts to the trail.
Vegetation		Not Affected	Impacts to vegetation would be minimal.
Visual Resources		Not Affected	The planting of Bartonberry seedlings would not affect visual resources.
Water Quality (Surface and Ground)		Not Affected	The planting of Bartonberry seedlings would not affect water quality; sedimentation would be minimal.
Wetlands and Riparian Zones		Not Affected	The minimal soil disturbance of planting Bartonberry seedlings would have no adverse effects on the wetlands or riparian areas. Establishment of planted Bartonberry seedlings would help stabilize floodplains and reduce erosion.
Wild Horse and Burro		Not Present	There are no wild horses or burros in the project area.

Table 3-1 Affected Environment		
Identified Resource with Issue Question for Analysis	**Status** **Affected;** Not Affected; Not Present.	**Explanation or Issue Question** **If Affected (BOLD); Reference Applicable EA Chapter and Section; and State the Issue in a Question.** If Not Affected, explanation required. If Not Present, explanation required.
Wild and Scenic Rivers (W&SR)	Not Present	There are no Wild and Scenic Rivers in the project area.
Wilderness/Wilderness Study Areas (WSA)/ Wilderness Inventory Characteristics (WIC)	**Affected**	**How will the two proposed Bartonberry planting sites located in the McGraw Creek WSA affect its wilderness study values? (Page 9).**
Wildlife	Not Affected	The reintroduction of Bartonberry would not affect wildlife habitat.

3.4 Identified Resource – Name of Resource

ACEC – Areas of Critical Environmental Concern

Two of the proposed planting locations are within the Homestead ACEC. "ACEC designations highlight areas where management attention is needed to protect and prevent irreparable damage to, important historic, cultural, and scenic values, fish or wildlife resources or other hazards" (BLM 1988). ACECs are to be managed to maintain or enhance the relevant and important values that they were designated for (BLM 1988).

The Homestead ACEC was designated for the following "relevant and important" values to protect outstanding scenic qualities, and wildlife, bald eagle and sensitive plant habitat (BLM, 1989). It is unknown what sensitive plant habitat the Homestead ACEC was designated to protect because BRMP does not provide that detail. It is highly probable that it was the 1977 Bartonberry site that the Homestead ACEC was in part designated to protect; because the 1977 Bartonberry site was in the Oregon Natural Heritage Program's rare plant database, which the BLM used in the 1980's. The fact that the BRMP (BLM, 1989) used only the singular "sensitive plant habitat" and not the plural sensitive plants' habitats also indicates that the habitat that the ACEC was designated to protect is a single species and it was most probably Bartonberry. The historic Bartonberry location is the only special status plant location ever documented to occur in the Homestead ACEC. Reintroducing Bartonberry to its historic location in the Homestead ACEC would restore the only sensitive plant that has previously been documented to occur in the Homestead ACEC. Thus, the reintroduction of Bartonberry to the Homestead ACEC would restore the one species that utilizes the special status plant habitat for which the ACEC was designated.

Special Status Plants
The BLM's Special Status Species 6840 manual (BLM 2008) directs the BLM to undertake proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the Endangered Species Act. In addition, the BLM (BLM 2008) is directed to complete management practices to reduce or eliminate threats affecting the status of the sensitive species, or improve the condition of the species' habitat on BLM-administered lands. Returning Bartonberry to its historian location on Copper Creek would fulfill the BLM's manual direction for special status plants.

Wilderness Study Areas
Two of the proposed Bartonberry planting locations are within the McGraw Creek Wilderness Study Area. The BLM's objectives for Wilderness Study Areas are:

> A. Consistent with relevant law, manage and protect WSAs to preserve wilderness characteristics so as not to impair the suitability of such areas for designation by Congress as wilderness.
>
> B. Provide policy guidance for prolonged stewardship of WSAs until Congress makes a final determination on the management of WSAs. (BLM 2012).

Restoration is allowed in WSAs under the BLM manual where natural processes will not be effective at restoring the area. In the case of Bartonberry the nearest extant site is located 5.5 air miles to the north on Lynch Creek. This is too great a distance for natural seed dispersal to restore these sites.

3.4.1 Affected Environment

Areas of Critical Environmental Concern
The Homestead ACEC consists of 8,537 acres on the breaks of the Snake River. It was established in 1989 for its scenic, wildlife and special status plant habitat (BLM, 1989). The one special status plant -Bartonberry - documented to occur in the ACEC was not found in searches during 2009 and 2010. It is assumed that Bartonberry is now extirpated from the Homestead ACEC. Two of the proposed planting locations are located within the Homestead ACEC. Noxious weed treatments are ongoing in the Homestead ACEC. There are a number of noxious weed species that occur in the ACEC. The most abundant noxious weed there is rush skeletonweed. Additional weed species that are present the area include Dalmatian toadflax, bull thistle, scotch thistle, sulphur cinquefoil, pale yellow iris, Scotch thistle, diffuse knapweed, Armenian blackberry, and medusahead rye.

Special Status Plants
The only special status plant known from the area – Bartonberry – which was collected in 1977 in the vicinity of Copper Creek has not been found in subsequent searches and it is assumed to be extirpated from the area.

Wilderness Study Area
The McGraw Creek WSA consists of 497 acres and is located on the breaks of the Snake River just south of the designated Hells Canyon Wilderness. The McGraw Creek WSA overlaps with

the Homestead ACEC by 395 acres. There are two proposed Bartonberry planting sites in the McGraw Creek WSA; one of which is also in the Homestead ACEC. The southernmost planting site in the WSA is 16 acres and the second site is 7 acres for a total of 23 acres where it is proposed to plant Bartonberry within the McGraw Creek WSA.

3.4.2 Environmental Consequences

Areas of Critical Environmental Concern

No Action Alternative
The No Action Alternative would maintain the special status plant habitat that is one the relevant and important values for which the Homestead ACEC was designated. However, the No Action Alternative would not restore the one special status plant to its available habitat in the ACEC. The nearest Bartonberry location is 5.5 air miles north of the ACEC. Natural seed dispersal will probably not restore Bartonberry to the area. It is not known how Bartonberry seeds are dispersed. Most seeds drop off the parent plant and fall to the ground nearby. It is also possible that birds could eat the fruits and distribute the seeds. If this is the case it is highly unlikely that birds will distribute Bartonberry seeds over five miles away to the Copper Creek site. The No Action Alternative would maintain the status of the ACEC but it would not enhance it with the restoration of one of the native plants that formerly occurred there. Thus, the No Action Alternative would maintain but not enhance the relevant and important values for the Homestead ACEC.

Proposed Action Alternative
The main effect of the planting Bartonberry in the Homestead ACEC would be to restore the one species that was dependent on one of the relevant and important value – special status plant habitat for which the ACEC was designated. Thus, the proposed action would have long-term beneficial effects for the relevant and important values that the Homestead ACEC was designated for.

Special Status Plants

No Action Alternative
The No Action Alternative would maintain the current distribution of special status plants in the area. It would not restore Bartonberry to its historic location near Copper Creek. The No Action Alternative would not restore the historic distribution of Bartonberry and thus it would not enhance its viability. Thus, the No Action Alternative would have long-term adverse effects on special status plants.

Proposed Action Alternative
The main effect of planting Bartonberry in the vicinity of Copper Creek would be to restore the southernmost global occurrence of the species. Maintaining the historic range of Bartonberry would increase its viability, persistence and reduce the potential for federally listing the species as Threatened or Endangered. Thus, the proposed action would have long-term beneficial effects for special status plants. No other special status plants were observed in the area during surveys for Bartonberry in 2009 and 2010. The proposed planting areas would be excluded from possible

future aerial herbicide treatment, and only ground based herbicide spot treatments would occur a safe distances away from the plantings to prevent herbicide damage to the seedlings.

Wilderness Study Area

No Action Alternative
The No Action Alternative would maintain the wilderness characteristics of the McGraw Creek WSA. The No Action Alternative would not restore one of the native species that historically occurred in the McGraw Creek WSA. Thus, the No Action Alternative would have minor long-term effects on the wilderness characteristics of the McGraw Creek WSA.

Proposed Action Alternative
The main effect of the planting Bartonberry in the McGraw Creek WSA would be to restore one of plant species that has been extirpated from the area. Access to planting sites will be by walking in from established roads or possibly by boat on the reservoir to access the northernmost planting site. Planting Bartonberry in the McGraw Creek WSA would restore its vegetation to the characteristic conditions of the ecological zone in which the area is situated. Planting 1,533 Bartonberry seedlings on 23 acres of the McGraw Creek WSA would not impair its wilderness characteristics. Instead the proposed action would have long-term beneficial effects for the wilderness characteristics by restoring a native component of the ecosystem that historically occurred in the McGraw Creek WSA.

3.4.3 Residual Effects

There would be no residual effects from implementing the proposed action.

3.4.4 Cumulative Effects

Past actions have reduced and fragmented the habitats for special status plants in the project area primarily through the construction of the Hells Canyon Dam and powerline construction from the dam. Past actions that have modified the habitat of special status plants include historic livestock grazing primarily by sheep and spraying herbicides. Past herbicide applications in the project area include aerial application for rush skeleton weed and ground based spot treatments of the other noxious weeds that occur in the project area.

Present and future actions that affect special status plants in the project area include livestock grazing, noxious weed treatments, and powerline and road maintenance. All of these actions would have both short-term and long-term effects on special status plants.

The most influential driver of future effects on special status plants will be global climate change. The future effects of global climate change on special status plants are difficult to gauge and to quantify. Endemic plant species, such as Bartonberry, with limited distributions and that require specialized habitats will be at greatest risk (Hawkins et al 2008 Foden et al. 2008). Endemic species do not tend to have as high a level of genetic diversity as their more common congeners (Gitzendanner and Soltis 2000; Karron 1987). The reduced genetic diversity often found in endemic plants could make them less able to adapt to changing environments (Barrett and Kohn 1991; Hawkins et al. 2008). There will be greater competition with other (nonnative

and native) plant species that are better adapted to the altered climates and soils that will result from climate change.

3.4.5 Summation of Cumulative Effects

Cumulative effects for special status plants in the project area consist of climate change, noxious weeds, and noxious weed treatments, past sheep grazing, dam and powerline construction, and road maintenance.

4.0 LIST OF PREPARERS

Roger Ferriel, Fire Botanist
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Steve Flock, Geologist
Lynne Silva Weeds Specialist
Kari Points, Recreation Planner
Brent Grasty, NEPA Planner

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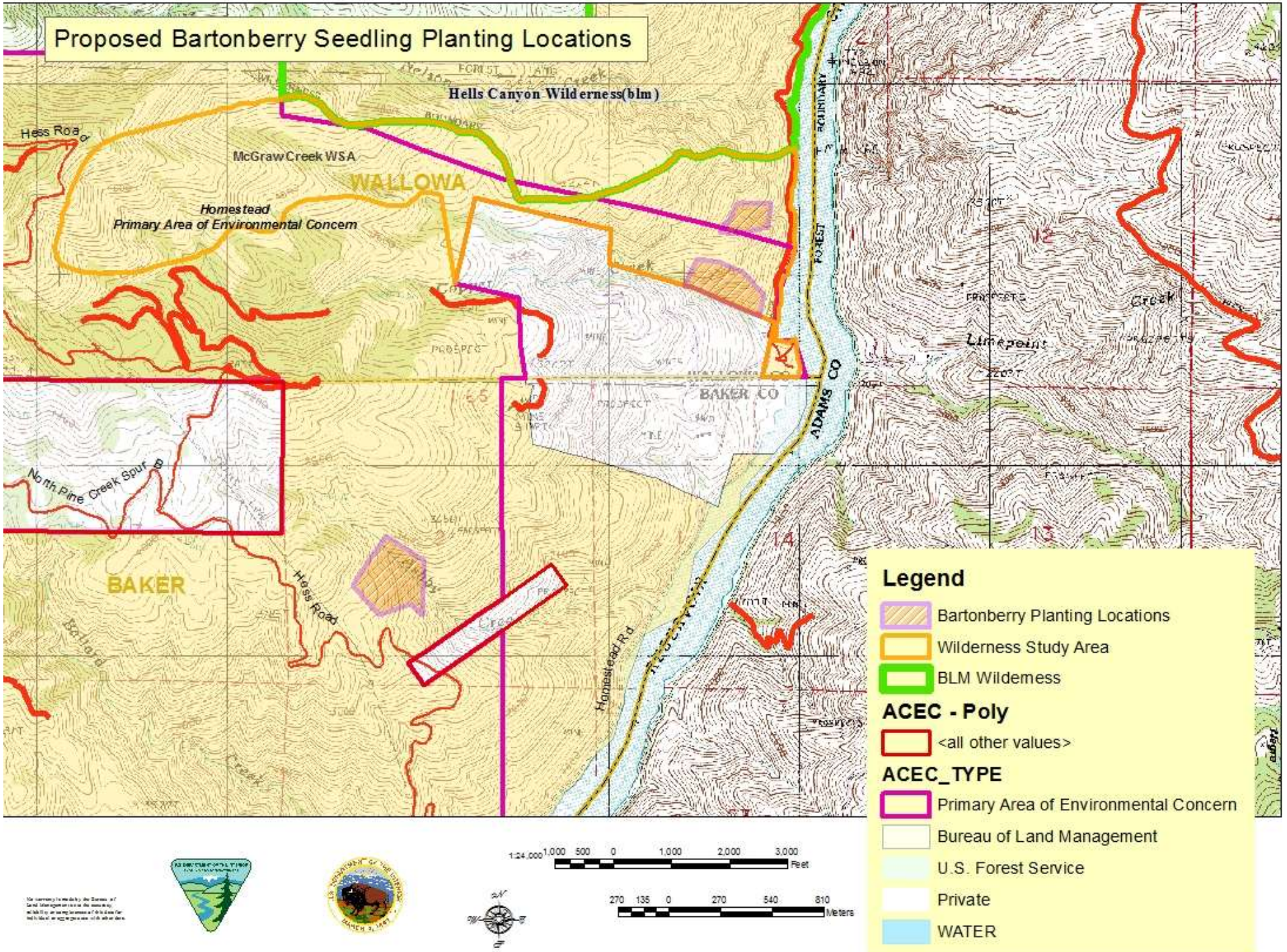
APPENDIX A
MAP


Proposed Bartonberry Seedling Planting Locations
Hells Canyon Wilderness(blm)
Hess Road
McGraw Creek WSA
WALLOWA
Homestead
Primary Area of Environmental Concern
BAKER CO
ADAMS CO
FOREST BOUNDARY
North Pine Creek Spur B
BAKER
Hess Road
Homestead Rd
Limepoint
Legend
Bartonberry Planting Locations
Wilderness Study Area
BLM Wilderness
ACEC - Poly
<all other values>
ACEC_TYPE
Primary Area of Environmental Concern
Bureau of Land Management
U.S. Forest Service
Private
WATER
1:24,000
1,000 500 0 1,000 2,000 3,000
Feet
270 135 0 270 540 810
Meters